

IN THE SPECIFICATION:

On page 7 of the specification, please replace the existing paragraph [0030] with the following new paragraph [0030]:

[0030] For example, if the process 105 dies, then it will no longer transmit heartbeat messages to the PSM 101. The PSM marks the process 105 as dead when the defined time period for receiving a heartbeat message from the process 105 expires. Since the processes 103 is interested in the process 105, the PSM 101 will transmit a death notification to the interested process 103. With this information, the process 103 can function intelligently and perform other tasks without expending time attempting communication with the dead process 105. When the process 105 restarts, it will request a communication key from the PSM 101. The PSM 101 will find the already created process identifier for process 105 and update the incarnation identifier for the process 105 to indicate the new incarnation. After updating the incarnation identifier, the PSM 101 transmits the new communication key to the process 105. The PSM 101 then transmits the new communication key for process 103105 to the interested process 103. Process 103 receives the new communication key for process 105 asynchronously. Once received, the process 103 can begin communication with process 105.

On page 10 of the specification, please replace the existing paragraph [0039] with the following new paragraph [0039]:

[0039] Figure 7B is a flowchart for the process state manager to process heartbeat messages according to one embodiment of the invention. At block 707709, the PSM receives a heartbeat message. At block 708711, the PSM determines which process transmitted the heartbeat message. At block 709713, the PSM resets a counter for the transmitting process.

On page 10 of the specification, please replace the existing paragraph [0040] with the following new paragraph [0040]:

[0040] Figure 7C is a flowchart for the process state manager to determine death of a process according to one embodiment of the invention. At block 711715, the PSM initializes a counter for a registering process. At block 713717, the PSM increments the counter. At block 715719, the PSM determines if the counter has exceeded a limit for receiving heartbeats from the process. If the limit has not been exceeded, then control flows back to block 715717. If the limit has been exceeded, then at block 717-721 the PSM updates the state of the process to indicate dead. At block 719723, the PSM transmits a death notification to processes interested in the dead process. In another embodiment of the invention, the PSM transmits a message to a process exceeding the time limit. If the process responds, then the counter is reset as if a heartbeat message has been received.